



Testimony

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Observations on Compliance and
Enforcement in EPA's Drinking
Water Program

Statement for the Record by
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Before the
Subcommittee on Health and the Environment
Committee on Energy and Commerce
U.S. House of Representatives



Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to offer our views on implementation of the Safe Drinking Water Act program by the Environmental Protection Agency (EPA), the states, and the nation's public water supply systems. In June 1990, we issued a report to the Environment, Energy, and Natural Resources Subcommittee, House Committee on Government Operations.¹ In the report, we examined (1) the extent to which community water systems have complied with requirements for monitoring water supplies and meeting drinking water standards, (2) the effectiveness of state and EPA enforcement efforts to ensure compliance with these requirements, and (3) the impacts of new drinking water requirements, mandated by the 1986 amendments to the Safe Drinking Water Act. As requested by this Subcommittee, this statement for the record discusses EPA's actions taken in response to a number of our recommendations, and updates certain information contained in our June 1990 report.

In summary, Mr. Chairman, our 1990 report documented that many water systems, particularly smaller systems, are violating requirements for monitoring water quality and meeting drinking water standards. Based on our review of enforcement cases in six states, we found that states' and EPA's enforcement actions, intended to deter such violations and return systems to compliance, often fall short of EPA's program requirements and are frequently ineffective in achieving their objectives. The implementation of new and more stringent regulatory requirements stemming from the 1986 amendments will probably make compliance more difficult to achieve and enforcement problems more difficult to resolve.

¹Drinking Water: Compliance Problems Undermine EPA Program As New Challenges Emerge (GAO/RCED-90-127, June 8, 1990).

Our follow-up work has shown that EPA has taken steps to address a number of these problems. Many of their actions involve issuing new guidance to EPA regions or the states. What appears to be missing, however, is a system for ensuring that the guidance is implemented and improvements are made. The lack of an oversight component in EPA's planned actions is significant because many of the problems we identified in our 1990 report can be attributed to inadequate oversight both by EPA headquarters of its regional offices and by EPA regional offices of the states. Unless EPA builds in sufficient oversight to track how well its guidance and policies have been implemented, it will be difficult to determine the extent to which problems have been corrected.

Before we discuss some of the key findings of our prior report and follow-up work, we will provide some background on the nation's drinking water and EPA's Safe Drinking Water Act program.

BACKGROUND

Most Americans take the availability of safe drinking water supplies for granted. However, although improved treatment practices and drinking water regulations have virtually eliminated such diseases as typhoid and cholera and have reduced the incidence of other debilitating diseases, some outbreaks of waterborne diseases continue to occur. In addition, public health and environmental officials have become increasingly concerned about a proliferation of man-made chemical contaminants found in drinking water supplies. Many of these contaminants have been linked to cancer, birth defects, and other serious health problems.

To protect the public from these risks, the Safe Drinking Water Act, enacted in 1974, required EPA to establish (1) water quality standards or treatment techniques for contaminants that could adversely affect human health and (2) requirements for monitoring the quality of drinking water supplies and for ensuring

the proper operation and maintenance of water systems. In 1986, the Congress amended the act to significantly increase the number of contaminants to be regulated, strengthen EPA's enforcement authority, and establish various other requirements. All but two states have assumed "primacy," or responsibility, for managing the drinking water program at the local level.

In implementing the program, EPA and the states rely heavily on community water systems to demonstrate compliance with the program's requirements by periodically collecting water samples and having them tested in an approved laboratory. The test results are then reported to the states, which analyze the data to determine the water systems' compliance with monitoring requirements and water quality standards. The states, in turn, report identified violations to EPA.

If a violation occurs, the states are responsible for taking enforcement action against the water system. The states give priority to systems in "significant noncompliance"--a designation based on the frequency and/or magnitude of violations. EPA is responsible for enforcing cases when the states do not act.

SAMPLING ERRORS BY WATER SYSTEM OPERATORS

Some violations of water quality standards are probably going undetected because of sampling errors by water system operators. Sampling errors occur when water system operators either take or test water samples incorrectly. Sample collectors must follow specific, detailed procedures to obtain accurate test results. However, EPA and state program managers expressed concern about the operators' sampling technique and the accuracy of the test results. For the most part, the program managers attributed such concerns to the inadequate training of operators, the lack of full-time

operators, or the high turnover among operators at small water systems.

EPA and state officials also cited as a cause of sampling errors by operators the increasingly technical drinking water regulations and sample collection procedures. The officials indicated that sampling errors will probably increase as more contaminants are regulated under the 1986 amendments to the Safe Drinking Water Act.

Operator certification programs can help ensure that water systems are operated and maintained by qualified individuals, sampling techniques are properly employed, and drinking water regulations are met. Although EPA does not require states to certify operators, 45 states have mandatory operator certification programs, and 2 others have voluntary programs, according to the Association of Boards of Certification. However, after reviewing data provided by EPA and the Association and interviewing state program managers, we determined that (1) many states exempt small systems from employing certified operators and (2) the extent to which water systems comply with operator certification requirements may vary considerably from state to state.

An April 1991 EPA study of state operator certification programs confirmed our findings. Among other things, the study concludes that the smallest water systems--those serving 500 people or fewer--are responsible for most drinking water violations and are also the least likely to have certified operators. EPA found that 15 states explicitly exclude some systems serving 500 people or fewer from their operator certification requirements, and other state programs use different criteria--such as the type of treatment or water source--to exempt small systems.

EPA's study also points out that 35 states do not require operators of nontransient, noncommunity water systems to be certified. This is significant because new federal regulations require such systems to meet the same standards as community water systems.²

Our 1990 report recommended that EPA promote more consistent and effective use of state-sponsored operator certification and training programs to reduce operator error. In response, EPA formed a national training coalition, including the American Water Works Association, the Association of State Drinking Water Administrators, the National Rural Water Association, and other groups. The coalition has held two national workshops and has selected several states in which it will help develop training strategies for other states to follow. EPA officials told us that it is too early to project the number of operators who will ultimately receive training under the new program.

EPA has also sponsored the development of a sampling handbook for water system operators and an operator certification exam for very small system operators. The impact of the latter initiative is questionable, however, given the fact that many small water systems are not required to have certified operators.

DATA FALSIFICATION BY WATER SYSTEM OPERATORS

A second potential source of undetected or unreported violations by water systems is the deliberate falsification of compliance data or manipulation of the test itself to produce the

²Community water systems primarily serve year-round residents, while noncommunity water systems serve transient or intermittent users at least 60 days out of the year. Nontransient, noncommunity water systems are public water systems--such as hospitals, factories, and schools with their own water systems--that regularly serve at least 25 of the same people at least 6 months of the year.

desired result. While the extent of this problem is unknown, we found that falsifying data and manipulating test results are relatively easy to accomplish, and ample evidence exists that these practices are occurring.

One way to falsify compliance data is to ensure "good" test results by taking samples from sources known to be free of contamination. Another technique is to eliminate any contamination before the sample is tested. For example, in the case of microbiological tests, boiling or microwaving the sample will kill bacteria, as will rinsing the container with chlorine prior to collection of the sample. Where system operators are responsible for testing the sample in addition to collecting it, as in the case of turbidity, they can simply record plausible test results without ever actually testing the water.³

While most EPA and state officials we interviewed did not believe data falsification is extensive, they all cited cases in which such practices had been detected or were strongly suspected. For example, program managers in all six states visited during our review had identified cases in which reported turbidity results were questionable. When Oklahoma officials investigated one such case, the water system operator admitted that he was not testing the water as required; he said that his predecessor told him to take a water sample, "hold it up to the light, and if it looks pretty clear, give it a .3." He was also told not to report, under any circumstances, a result over 1, the drinking water standard.

How often data falsification occurs is unclear because most states do not actively seek to discover it. While some states have undertaken modest efforts to detect such problems, few have a systematic program to identify and investigate potential data

³Turbidity is a "cloudiness" in water caused by minute suspended particles. It may reduce the efficiency of disinfection treatment and mask the presence of microbiological contaminants.

falsification. Our report noted that EPA needs to encourage these efforts because the incentives for falsifying data will increase as water systems are required to comply with the broader and more stringent requirements in the 1986 amendments to the Safe Drinking Water Act. We recommended that EPA evaluate the extent of data falsification and provide guidance to the states on how best to discourage these practices and on how to detect them when they do occur.

In response to our recommendations, EPA, in April 1991, issued guidance to its regional offices on detecting invalid or fraudulent compliance data and taking criminal action against water systems suspected of submitting such data. The agency acknowledged that the problem of data falsification could be larger than they think and is likely to worsen with the promulgation of new regulations. Two EPA regions have thus far undertaken special efforts to analyze certain test results submitted by water systems and to detect suspicious data.

INCONSISTENT STATE SANITARY SURVEY PROGRAMS

States undertake a variety of quality assurance activities to improve water system operations and compliance with the Safe Drinking Water Act. One such activity is a comprehensive inspection of a water system, called a sanitary survey. In addition to serving as overall reviews of the facilities and their operations, sanitary surveys provide states with an opportunity to reduce the potential for operator sampling error and falsified test results. For example, states may sample and test the water, observe the system operators' sampling and testing procedures, and/or review sample collection procedures to ensure that the operators understand them.

EPA regulations require states to have a program for conducting sanitary surveys as a condition of obtaining primacy. However, EPA's policy on sanitary surveys has been ambiguous. We found that the state of Washington, for example, has not conducted routine sanitary surveys since the late 1970s. In other states, our review disclosed that state sanitary survey programs vary widely in both frequency and content and that resource constraints are substantially affecting many of these programs. When asked whether states that have discontinued their sanitary surveys are violating EPA regulations, an official with EPA's Office of Drinking Water stated that because EPA has not established any requirements or criteria for how frequently these reviews must be conducted, the states might not be in technical violation as long as they have conducted sanitary surveys at some point.

Our 1990 report suggested that better compliance by water systems could be achieved through more consistent implementation of sanitary survey programs. We recommended that EPA clarify its ambiguous policy on whether sanitary surveys are required and encourage states to implement survey programs more consistently. In addition, to encourage all quality assurance efforts--including operator certification and training as well as sanitary surveys--we recommended that EPA assist states in finding alternative ways to fund such programs.

In response to our recommendations, EPA reiterated that its state primacy regulations require states to have a program for conducting sanitary surveys, and issued guidance recommending that sanitary surveys be conducted at each water system at least once every 3 years. While the new guidance is a positive step, financial constraints have led many states to cut back on sanitary surveys and other quality assurance activities, and the situation appears unlikely to improve dramatically in the near term. As a practical matter, it seems unlikely that states will allocate limited resources to increasing the frequency of sanitary

surveys, particularly if EPA does not specify minimum requirements for the frequency and content of the surveys.

UNDERREPORTING OF
VIOLATIONS BY STATES

To learn whether states are reporting accurately on the number of violations by their systems, we analyzed EPA "data verification studies", which are conducted periodically by EPA regional offices. Among other things, the studies disclosed that some states are underreporting violations to EPA and that state policies that revise or suspend certain monitoring requirements are a major factor contributing to underreporting.

As a result of these policies, water systems are not performing all required tests, and monitoring violations are not being reported to EPA. In some instances, states may present a compelling case for why such policies are warranted. Nevertheless, such policies undermine a program that relies primarily on adherence to published regulatory requirements. In addition to encouraging noncompliance, these policies result in statistics that mislead both EPA managers and the public into believing that required monitoring is being conducted and that compliance is being achieved.

Our report recommended that EPA evaluate state policies that suspend or restrict federal monitoring requirements and determine, within the constraints of the Safe Drinking Water Act, whether existing regulations should be modified. We recommended that EPA ensure that the states enforce the regulations once that determination had been made. According to EPA officials, EPA regions and states have been informed that such "blanket" policies

will not be tolerated.⁴ In addition, EPA plans to check on whether monitoring is being performed in accordance with federal requirements as part of its future data verification studies. As noted earlier, however, lack of awareness on EPA's part was not the problem--the data verification studies we reviewed for our 1990 report disclosed the state policies in question. The problem was the absence of corrective action once the policies had been identified. Therefore, EPA needs to make it clear to its regional offices that they must follow through when they become aware that states are exempting water systems from monitoring requirements, and ensure that such policies are actually halted.

ENFORCEMENT EFFORTS ARE NOT
TIMELY AND APPROPRIATE

EPA counts on enforcement as a primary means of deterring program violations and returning violating water systems to compliance. EPA policy requires states to take "timely and appropriate" enforcement action against significant noncompliers (SNC) and, to that end, has established criteria for determining appropriate actions and time frames. According to EPA reports, states have been somewhat successful in implementing the enforcement policy. In fiscal year 1989, for example, agency enforcement statistics show that states took timely and appropriate action against 54 percent of microbiological and turbidity SNCs and 82 percent of chemical and radiological SNCs.

However, close inspection of individual enforcement cases discloses that EPA's tracking system does not accurately reflect whether state actions were timely or appropriate. For example, when we reviewed state enforcement documents, we found that 31 of 37 bilateral compliance agreements did not meet EPA's

⁴New regulations do allow for the reduction of routine monitoring at specific water systems that meet certain criteria and qualify for a waiver.

appropriateness criteria. In particular, we found that in 28 instances, the agreements were never signed by water system representatives. When asked why the representatives did not sign the agreements, officials in two states indicated that these individuals expressed concern that signing would legally obligate them to take the designated corrective actions. Overall, based on our detailed analysis of 95 SNC enforcement cases, involving 75 water systems in six states, we found that states took timely and appropriate action only about 25 percent of the time.

STATE ACTIONS INEFFECTIVE IN
RETURNING VIOLATORS TO COMPLIANCE

One of the more striking observations to be made about the 95 enforcement cases we reviewed is the length of time many of the water systems have remained in significant noncompliance. As of March 1991, we found that 53 of the 95 had met the SNC criteria for over 4 years. In 29 of the 53 cases, water systems were still in significant noncompliance at that time.

There is no single explanation for why some water systems remain in noncompliance for years. However, ineffective enforcement by states and EPA is clearly an important contributing factor in the delays in resolving some of these cases. In some instances, we found that the states postponed appropriate enforcement action until long after serious compliance problems were first identified. For example, one system had not tested its water for any contaminants since June 1980, but the state's first enforcement action did not occur until October 1987.

Of greater concern, a number of enforcement actions that did meet the EPA criteria had little or no effect in returning systems to compliance. We found this to be particularly true for civil referrals, which EPA counts as appropriate regardless of whether or not they are filed in court. Seven of the 12 civil referrals in

our enforcement case reviews had not been filed as of September 1989. Moreover, a recent EPA study of administrative penalty practices in 43 of the 54 states and territorial possessions disclosed that only 18 have the authority to assess administrative penalties and another 5 can issue penalties if they reach an agreement with the violator. In our view, the ability to assess penalties is a critical ingredient in effective administrative actions and, perhaps, in deterring violations in the first place.

Our 1990 report made a number of recommendations to improve EPA's and states' enforcement. For example, to increase the prospect that state enforcement actions will return violating systems to compliance, we recommended that the Administrator direct EPA regions to examine whether (1) states relying on administrative orders have a workable procedure to implement them in a timely manner and have sufficient authority to assess penalties as part of the order and (2) states relying on civil referrals have the resources and commitment needed within the state drinking water program office and the attorney general's office to ensure that such referrals will be acted upon.

EPA has taken several actions in response to these recommendations. For example, the agency is currently working with drinking water offices in six states to help them obtain administrative penalty authority from their state legislatures. To improve the effectiveness of civil referrals, the regions have been instructed to monitor the status of state civil referrals; for any referral that has not been filed within 120 days, the regions are to consider initiating federal enforcement action. Given the history of reluctance on the part of EPA regions to take enforcement action, however, it is uncertain whether asking them to "consider" enforcement will have a significant impact.

COMPLIANCE AND ENFORCEMENT PROBLEMS WILL
PROBABLY WORSEN AS PROGRAM DEMANDS INCREASE

As problematic as compliance and enforcement already are, they may become more so in coming years as EPA establishes new standards and other requirements for water systems. As required by the 1986 amendments to the Safe Drinking Water Act, EPA has issued or proposed many new regulations that will significantly increase program responsibilities for nearly all of the nation's 59,000 community water systems. Moreover, an additional 25,000 nontransient, noncommunity water systems will have to meet the same standards as community water systems. Although the actual impacts of the new requirements will not be known until all new regulations are implemented, water systems are expected to incur enormous costs and face difficult new challenges in achieving compliance with these requirements.

The 1986 amendments also increased responsibilities for state drinking water programs. Among these new responsibilities are (1) identifying and classifying water systems requiring filtration, (2) implementing a lead and copper corrosion control program, (3) assessing systems' vulnerability to contamination, and (4) expanding laboratory capabilities to handle work associated with the significant increase in regulated contaminants. However, the Association of State Drinking Water Administrators and individual states have reported that such requirements cost millions of dollars at a time when fiscal pressures are leading to reduced, rather than expanded, program budgets.

We noted in our 1990 report that EPA had developed a "Mobilization Strategy" to encourage state and local governments, water systems, and private organizations to use creative approaches to find additional resources for state and local drinking water programs. In a March 1991 report on efforts to help states find additional resources for their programs, EPA reported mixed success. While 13 states received increases in fiscal year 1990, 11 states either lost funding or are in danger

of losing funds during fiscal year 1991--including five of the states listed as receiving increased resources in the previous year. In addition, EPA's fiscal year 1992 budget request provides for an increase of only \$2.5 million for state program grants. Overall, the total of \$50 million allocated to support state drinking water programs in fiscal year 1992 will fall well short of closing the funding gap facing the states, which is projected to be in the hundreds of millions of dollars.

Faced with resource shortages of this magnitude, some states may have to shift their work priorities or further limit some program activities--including enforcement, laboratory testing, and sanitary surveys--to implement the existing and new requirements. Such a prospect is particularly disturbing in light of our findings that more consistent use of such activities is central to any effort to improve compliance and better protect the public from contaminated drinking water.

CONCLUSIONS

In conclusion, our 1990 report made a variety of recommendations to EPA to improve water systems' compliance by taking actions to reduce sampling errors by water system operators, detect and deter the deliberate falsification of compliance data, and bolster state quality assurance programs. We also made a number of recommendations to improve compliance through better enforcement by the states and EPA.

We believe that many of the actions EPA has taken in response to these recommendations are steps in the right direction. However, many rely on guidance alone to EPA regions and the states. The difficult challenge facing EPA is that its agenda to improve the program will require effective oversight by headquarters to determine how well the regions and the states adhere to this guidance. Unfortunately, gaps in EPA's oversight contributed to

many of the problems we have discussed here in the first place. Thus, unless EPA significantly strengthens its oversight of the program in coming years, it is questionable whether substantial improvements in program implementation will take place.

Finally, the need for additional resources for water systems, states, and EPA itself also poses a daunting challenge, particularly since the new requirements are already taking effect. However, EPA's efforts to help states find additional resources have thus far met with only mixed success. Even so, continued efforts such as these are essential because they offer at least some hope that some vital programs such as sanitary surveys and operator certification programs can be funded.